Contents

Prime Contractor (Integrator):

- **Fluor Daniel Hanford, Inc.**

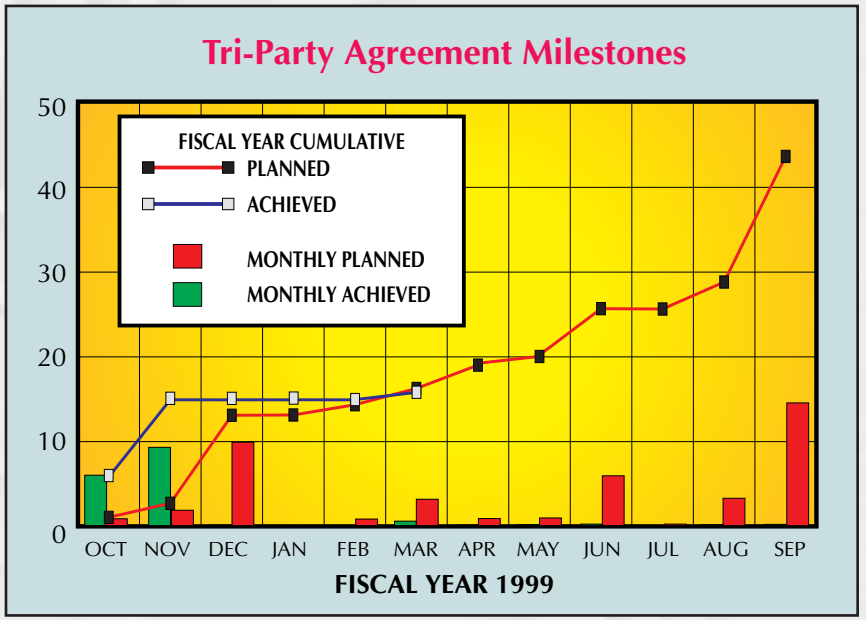
Principal Subcontractors:

- **B&W Hanford Company** (Facility Stabilization Project)
- **DE&S Hanford, Inc.** (Spent Nuclear Fuel Project)
- **DynCorp Tri-Cities Services, Inc.** (Site Infrastructure)
- **Lockheed Martin Hanford Corporation** (Office of River Protection, Tank Waste Remediation System Project)
- **Numatec Hanford Corporation** (Engineering & Technology)
- **Waste Management Federal Services of Hanford, Inc.** (Waste Management Project)

2nd Quarter Fiscal Year 1999 Highlights

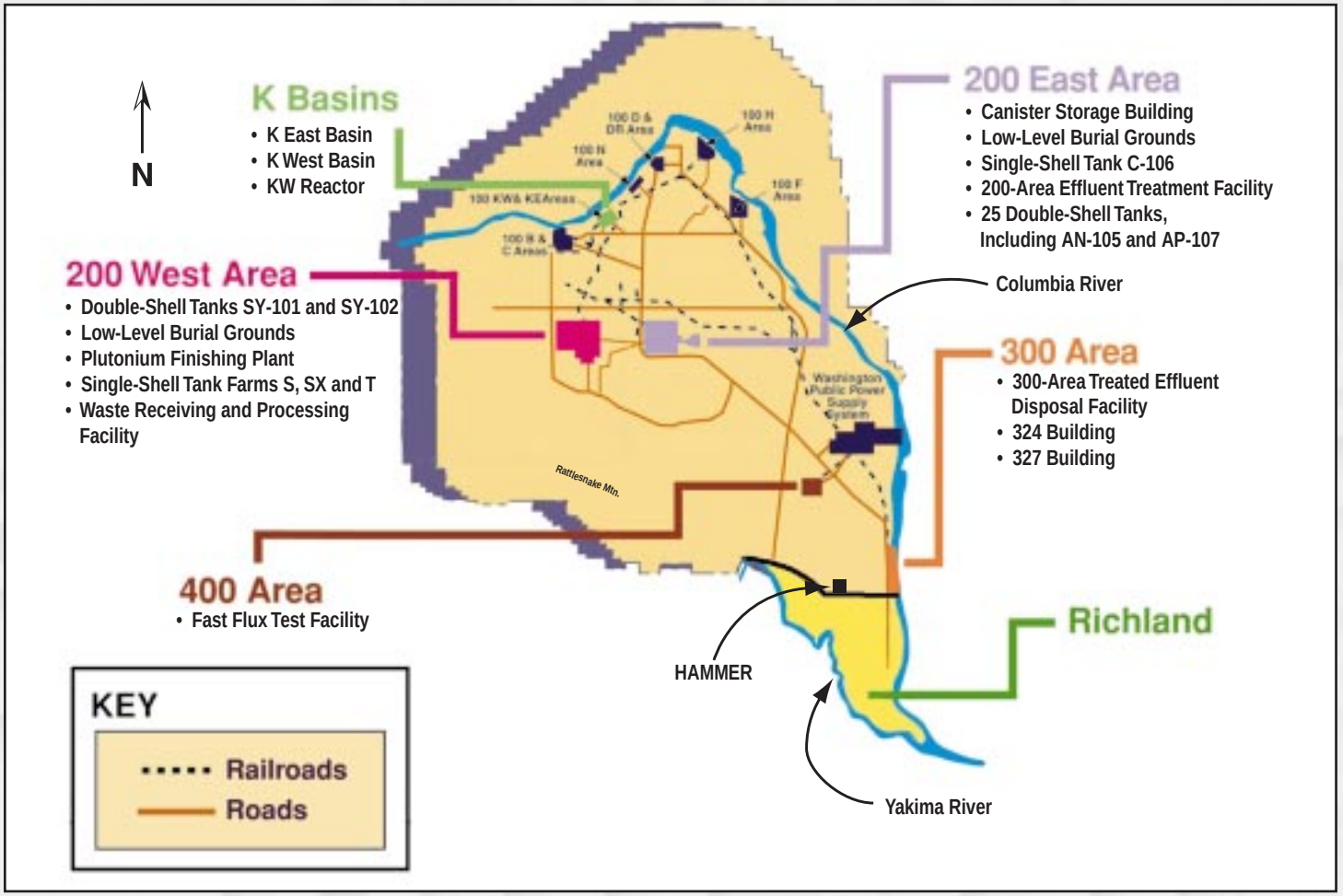
We're focused like never before on making continuous quality improvement our top priority. As a result, our people continue to build records for safe hours worked. And by building safety and quality into every task, our team achieved significant cleanup progress during this period:

- **Resumed safe plutonium stabilization at Plutonium Finishing Plant.**
- **Pumped liquids from five single-shell tanks, and pumping will soon start on two more.**
- **Removed about 20 inches of waste sludges from high-heat Tank C-106.**
- **Moved 145,000 gallons of liquid wastes through a new cross-site transfer line.**
- **Began installing hardware for start of spent-fuel removal from K Basins next year.**
- **Readied another 149 drums of transuranic waste, pending certification, to ship to the Waste Isolation Pilot Plant.**



Hanford cleanup is guided by the Tri-Party Agreement between DOE, Washington State and the U.S. Environmental Protection Agency. At the end of March, we were slightly behind our year-to-date target, awaiting the Energy Department's decision on the future of the Fast Flux Test Facility.

These Hanford areas and facilities are cited in this report....



Hanford Site Map

Facility Stabilization Project

Expectation:

Safely deactivate contaminated buildings to reduce risk to workers and the environment while decreasing cost to taxpayers.

Status Update:

- **We safely resumed plutonium stabilization at the Plutonium Finishing Plant (PFP). Completed the three-phase startup leading to full-scale operation three weeks ahead of schedule.**

DOE cited five outstanding areas requiring no corrective actions: emergency preparedness, criticality safety, quality assurance, maintenance and radiological controls. "The plant's performance … is a major milestone for Hanford in allowing us to proceed with plutonium stabilization," said Jim Hall, Acting Manager, Richland Operations Office.

Small ovens, called muffle furnaces, dry small batches of plutonium-bearing materials, converting them to stable form. Hanford will use this thermal process over the next five years to stabilize three-quarters of the Plutonium Finishing Plant's 4.3 metric tons of plutonium.

Facility Stabilization Project

Status Update (continued):

- Resumed stabilization of high-assay oxides at PFP.
- Completed five technical evaluations associated with future cleanup activities at PFP, as recommended by the Defense Nuclear Facilities Safety Board.
- Cleaned out C Cell, first of eight "hot cells" in the 324 Building.
- Completed Year-2000 certification of two key PFP systems for material inventory and accountability ahead of schedule.
- Cleaned the exterior of the 327 Building G Cell.

First reclamation of a "hot cell" in the 324 Building included removing all equipment inside C cell, once used to test tank-waste retrieval and pretreatment activities. The clean cell can now be used to support other deactivation efforts in the building.

Facility Stabilization Project

Future Focus Areas:

- **Sustain safe, quality performance at PFP.**
- **Complete new baseline for PFP cleanup.**
- **Characterize core samples from Tank 361, an old concrete settling tank once used for PFP effluents.**
- **Continue 324 Building B-Cell cleanout.**

Photos courtesy *Tri-City Herald.*

The glow of a cutting torch lights the face of a hot-cell technician as he operates a robotic arm to dismantle a highly radioactive pipe inside B Cell in the 324 Building. Final cleanout of the cell is slated for November 2000.

Spent Nuclear Fuel Project

Expectation:

Protect the Columbia River by safely moving more than 2,100 metric tons of deteriorating spent nuclear fuel from the aging K Basins to safe, dry, interim storage in the center of the Hanford Site.

Status Update:

- **We began installing 220 storage tubes, handling equipment and a sampling station in the Canister Storage Building.**

- **Manipulator systems, in-pool tables for fuel canister baskets, closed-circuit TV system parts, a flexible crane-transfer system, and underwater pumps, tanks and filters for the water-treatment system were among fuel-retrieval hardware we began installing in the K West Basin.**

The handling machine being installed in the Canister Storage Building will place canisters of dry spent fuel in an underground vault for safe, interim storage of up to 40 years.

Spent Nuclear Fuel Project

Status Update (continued):

- Submitted our Final Safety Analysis Report with the Canister Storage Building annex on time.
- Closed out the last technical issue related to dry storage of N-Reactor spent fuel.
- Evaluated options for treating and disposing of sludge accumulated in the K Basins.

Future Focus Areas:

- Complete remaining safety analysis documentation for the Spent Nuclear Fuel Project.
- Complete Canister Storage Building tube and handling equipment installations.

The Canister Storage Building vault will hold 220 carbon steel tubes. Each 28-inch-wide tube is 40 feet long and will eventually safely store about seven tons of vacuum-dried spent fuel and scrap from the K Basins.

Spent Nuclear Fuel Project

Future Focus Areas (continued):

- Continue K-West Basin hardware installations such as a fuel-cleaning system, in-pool process tables, manipulators, instrumentation and water-treatment components.

- Develop a cost-effective treatment strategy for radioactive sludge that has accumulated on the K-East Basin floor during 20 years of spent fuel storage.

Sludge from the K-East Basin is taken for testing and analysis. An underwater camera helps engineers monitor the sampling activity. Later, operators transfer a sample to a shielded container.

Office of River Protection
Tank Waste Remediation System Project

Expectation:

Protect the Columbia River, our workers and the public by safely storing and disposing of high-level radioactive tank waste.

Status Update:

- **Initiated pumping from first tank in S Farm. We're now pumping liquid wastes from five underground single-shell tanks: T-104, T-110, SX-104, SX-106 and S-102. About 75,000 gallons were pumped out this quarter, and more than 183,000 gallons since last summer.**

- **DOE and Washington State agreed on consent decree covering pumping milestones; 60-day public comment period on new schedule began March 3.**

Dana Bryson of DOE's Office of River Protection called the pact "a key achievement in terms of defining a clear path forward," and said it "puts the environment first."

A probe is inserted to check the thickness of the waste crust inside Tank SY-101. Some liquids may be transferred from SY-101 to another double-shell tank, SY-102, later this year to mitigate a rise in the measured level of wastes in the tank.

Office of River Protection
Tank Waste Remediation System Project

Status Update (continued):

- Replaced a leaking conduit for single-shell Tank C-106. In two successful process tests, we removed about 20 inches of sludge from the tank to reduce the safety risk from this high-heat tank.

- We replaced the tank farms' outdated computer-automated surveillance system, in service since 1978, with a Year 2000-compliant monitoring and control system.

- Completed final design for retrieval of wastes from Tank AN-105 three months early. This is part of the effort that will feed tank wastes to Hanford's future vitrification plant.

A conduit for single-shell Tank C-106 is repaired (bottom photo) prior to process tests (top photo), during which about 20 inches of waste sludge were moved to a safer, double-shell tank, AY-102.

Office of River Protection
Tank Waste Remediation System Project

Status Update (continued):

- On March 10, the first liquid wastes moved through a new cross-site transfer line. 145,000 gallons were transferred from SY-102, one of only three double-shell tanks in 200 West, to AP-107, one of 25 newer, safer, double-shell tanks in 200 East.

Future Focus Areas:

- Begin pumping two more single-shell tanks by July 30, 1999.
- Continue sluicing to retrieve sludge from high-heat Tank C-106.
- Update planning documents to ensure tank wastes will be available when needed by the privatized vitrification plant.

Movement of liquid wastes through the new cross-site transfer system is monitored in the control room. Before the first transfer, workers suited up to install flexible jumpers, or conduits. About 1,400,000 gallons will be transferred to 200 East double-shell tanks this year to make room for the wastes being pumped from aging single-shell tanks in 200 West.

Waste Management Project

Expectation:

Safely treat, store and dispose of solid wastes and liquid effluents, and provide analytical, generator, environmental, transportation and packaging, and waste-minimization services.

Status Update:

- **We disposed of 27,000 cubic feet of various Hanford and other DOE low-level wastes in onsite low-level burial grounds this quarter.**
- **Protected site groundwater by treating 5 million gallons of radioactive and hazardous wastewater at the 200-Area Effluent Treatment Facility.**
- **Protected the nearby Columbia River by treating nearly 13 million gallons of industrial wastewater at the 300-Area Treated Effluent Disposal Facility.**

Bulk, low-level waste disposal using intermodal transportation will reduce taxpayer costs.

Waste Management Project

Status Update (continued):

- At the Waste Receiving and Processing facility, we non-destructively examined 93 drums of transuranic (TRU) waste and non-destructively assayed the contents of 56 other TRU waste drums.

- We established disposition paths for remote-handled low-level and TRU waste from the 324 Building. The TRU waste path includes interim storage in Hanford's low-level burial grounds.

Procedures and equipment for Hanford's transuranic-waste transportation system were tested.

Future Focus Area:

- Receive certification to ship transuranic waste to the New Mexico repository to reduce Hanford's stored waste volume.

Site Infrastructure

Expectation:

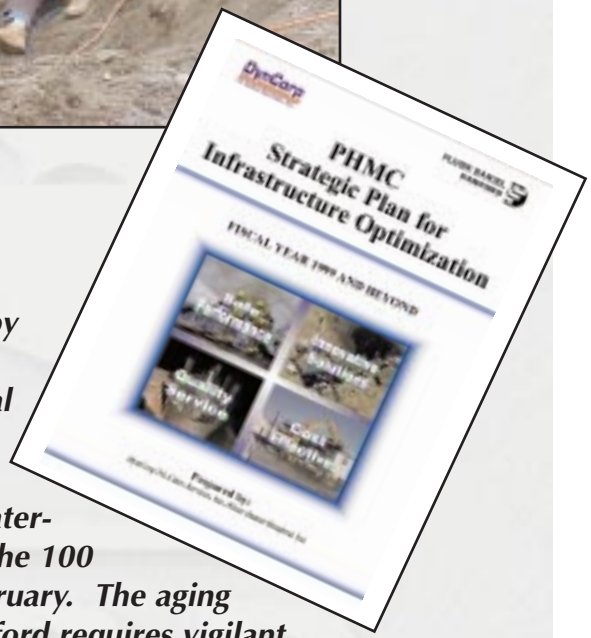
Optimize the Hanford Site infrastructure, reduce site inventories and be more cost effective.

Status Update:

- **Updated our strategic plan to optimize Hanford infrastructure, identifying new initiatives that could result in $8.6 million in added savings and cost avoidance over the next five years.**

- **Certified all 18 "mission essential" infrastructure computer systems as Year 2000-compliant ahead of schedule.**

- **We reviewed more than 100 potential waste sites in the 300 Area and obtained EPA concurrence that all but five are excluded from the cleanup process. Efforts are under way to revitalize the 300 Area for future commercial or industrial use.**



Due to quick action by dedicated workers, there were no residual adverse effects from a promptly repaired break in a 24-inch water-supply line between the 100 and 200 Areas in February. The aging infrastructure at Hanford requires vigilant preventive maintenance and a delicate balance against other cleanup funding priorities.

Site Infrastructure

Future Focus Areas:

- Develop a pilot proposal by May 30, 1999, that enables demolition of unneeded facilities – reducing the site footprint – by making excess assets available for commercial use.

- Implement a consolidated program for soil, vegetation and animal control for the site.

The closed 200-Area Powerhouse is one of three being evaluated for possible demolition in exchange for excess Hanford assets that could be put to commercial use.

Volpentest HAMMER Training and Education Center

Expectation:

Host, broker and provide training to the Hanford workforce, with hands-on use of realistic props and settings, to save lives, reduce injuries, increase worker productivity and serve as a catalyst for regional training.

Status Update:

- **Delivered 411 classes this quarter for a total of 7,516 student days, including 379 classes for the Hanford workforce, HAMMER's first priority.**

- **Incorporated more hands-on activities in worker training, including refresher courses for the International Union of Operating Engineers and United Brotherhood of Carpenters on hazardous waste operations and emergency response regulations.**

Hanford Fire Department students are trained in high-angle rescue techniques. Other HAMMER props used for realistic training can be seen in the background.

Volpentest HAMMER Training and Education Center

Status Update (continued):

- Conducted intense exploratory sessions with state training managers and department directors to identify opportunities for training at HAMMER. Two Department of Transportation forklift classes in May are direct results of this effort.

- Instituted new customer satisfaction surveys.

Future Focus Areas:

- Work with Department of Defense on funding and oversight for the National Counternarcotics Center.

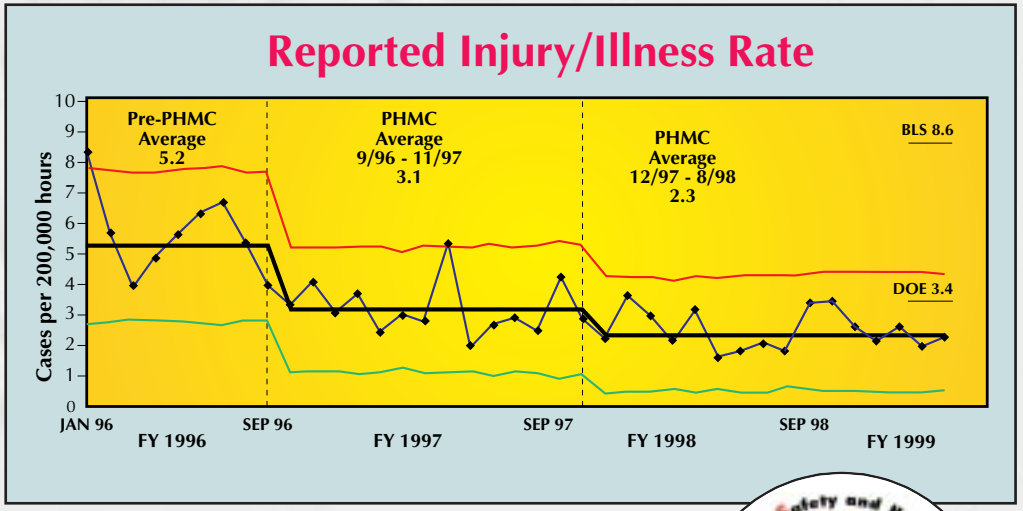
- Continue exploratory sessions with Washington officials to bring in more state training.

HAMMER continues to add hands-on activities and props to its training. Hanford workers and regional utility companies will benefit from this newly completed electrical utility rigging prop.

Environment, Safety, Health and Quality

Expectation:

Achieve safe quality performance by implementing an integrated environment, safety and health management system.



Status Update:

- **We're taking an aggressive, project-management approach to safe quality performance.**

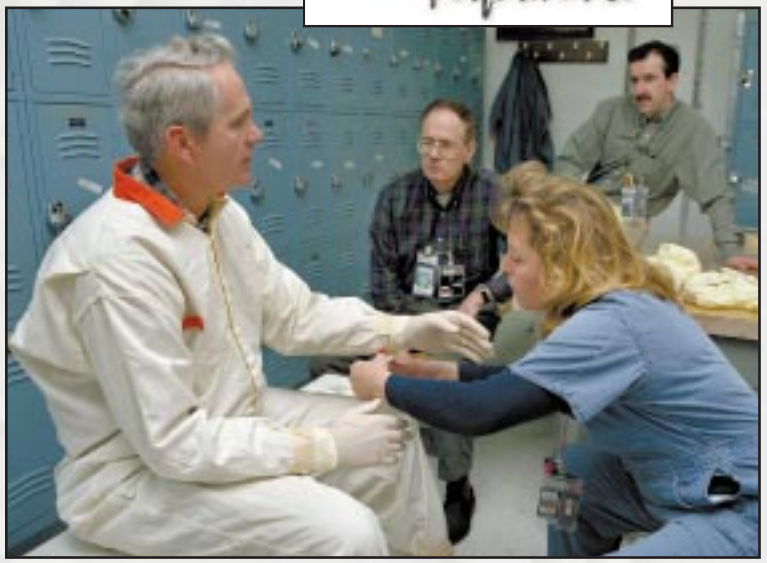
- **We continue to build records for safe hours worked. Fluor Daniel Hanford administrative staff surpassed the 3-million mark. Numatec Hanford and enterprise company Lockheed Martin Services, Inc., each exceeded 1 million safe work hours. Our multi-contractor Tank Waste Remediation System team achieved its second million-hour mark in three years.**

- **Our safeguards and security organization is the first at Hanford to be recommended for STAR status in the DOE Voluntary Protection Program (VPP). B&W Hanford, DynCorp and enterprise company Fluor Daniel Northwest have VPP applications under review.**

Environment, Safety, Health and Quality

Future Focus Areas:

- Resolve compliance issues arising from the Environmental Protection Agency's "multi-media" 1998 inspection of Hanford.
- Verification of the Fluor Daniel Hanford Integrated Environment, Safety and Health Management System.
- Resolve issues raised by the March 1999 DOE headquarters review of our Quality Improvement Project, and demonstrate aggressive field implementation.
- Begin construction of tank farm stack monitoring upgrades, a two-year project to ensure compliance with current environmental requirements.



Protective clothing is important for worker safety as well as visitors. When Acting Assistant Secretary for Environmental Management Jim Owendoff visited in January, a nuclear chemical operator ensured he was suited up properly to tour the Plutonium Finishing Plant.

Economic Transition

Expectation:

Support economic diversification in the Tri-Cities and surrounding six counties near the Hanford Site.

Status Update:

- **Our venture-capital firm, Columbia Basin Ventures, made an equity investment of $400,000 in Credit Card Solutions. The Richland-based company sells software to manage purchasing-card programs.**
- **Three of our enterprise companies landed six major non-Hanford contracts employing 30 workers locally.**
- **We helped Sykes Enterprises establish a customer technical support center near Walla Walla employing 400.**
- **We assisted the Grant County Economic Development Council in recruiting Genie Industries. The $45-million expansion to eastern Washington will bring 700 manufacturing jobs to the region by 2001.**

Lockheed Martin Services, Inc., one of our enterprise companies, recently received three non-Hanford contracts for computer services. Enterprise companies COGEMA and Waste Management Federal Services, Inc., Northwest Operations, also acquired new, non-Hanford work.

For More Information...

- **U.S. Department of Energy**
  Office of External Affairs
  P.O. Box 550, MS A7-75
  Richland, WA 99352
  (509) 376-5742

- **Fluor Daniel Hanford, Inc.**
  Office of Communications
  & Media Relations
  P.O. Box 1000, MS B3-30
  Richland, WA 99352
  (509) 376-5101

OR

- Visit the Hanford Homepage at:
  http//www.hanford.gov

Hanford has many stakeholders keeping a close eye on our cleanup progress, but none as unique as this great horned owl. In an access port on the outer wall of the KW Reactor building, she guards her nest while surveying a steady stream of workers preparing for the November 2000 start of spent-fuel removal from the K Basins. Great horned owls have been residents of the 100 Area for many years, and are protected by state and federal law. During the nesting season, K Basin workers take special precautions not to disturb the birds. Last year, this avian mom raised two young in the same spot.